



PART NUMBER: MES9

DESCRIPTION: incremental encoder

ELECTRICAL SPECIFICATIONS

| | |
|-------------------------|--|
| output waveform | Square Wave |
| output signals | A, B, Z phase |
| current consumption | ≤40 mA |
| frequency response | 0~100 KHz |
| output phase difference | A, B phase difference 90° ± 45° (T/4±T/8) Z phase T±T/2 (see output waveform) |
| supply voltage | 5 V dc ± 10% |
| output resolution (ppr) | 100, 200, 256, 300, 360, 500, 1000 |
| waveform rise/fall time | 2µ or less (output cable 140mm or less) |

MECHANICAL SPECIFICATIONS

| | | | |
|----------------------|---------|--|--------------------------|
| max shaft load, | radial: | 1.9N (200gf) | 0.98N (100gf) (1000 ppr) |
| | axial: | 1.9N (200gf) | 0.98N (100gf) (1000 ppr) |
| starting torque | | 1 x 10 ⁻³ N·m (10 gf·cm) | |
| max rotational speed | | 6000 RPM | |
| shock resistance | | 500 m/s ² (50G), 3 times each on XYZ | |
| vibration proof | | 55 Hz, double amplitude 1.5mm, 2 hours each on XYZ | |
| weight | | 10g (with 140mm cable) | |
| cable | | Vinyl wire (AWG30) cable length 140mm | |

ENVIRONMENTAL SPECIFICATIONS

| | |
|----------------|---------------------------|
| operating temp | 0° to +60° C |
| storage temp | -20° to +80° C |
| humidity | RH 35%~90% non collecting |

ORDERING INSTRUCTIONS

MES9 - XXXPX

Resolution (PPR):
 100 = 100PPR 300 = 300 PPR
 200 = 200PPR 360 = 360 PPR
 256 = 256PPR 500 = 500 PPR
 1000 = 1000 PPR

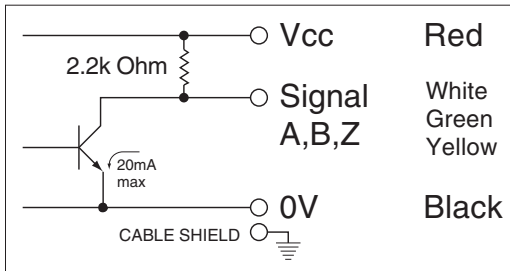
Output Circuit:
 "no entry" = TTL voltage output
 C = Open collector output

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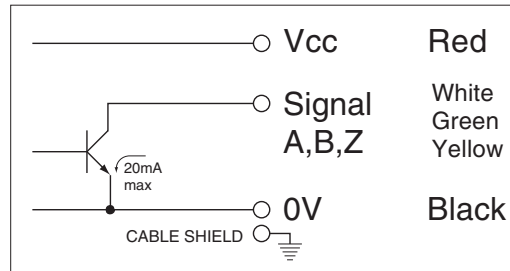
DESCRIPTION: incremental encoder

CIRCUIT CONNECTIONS

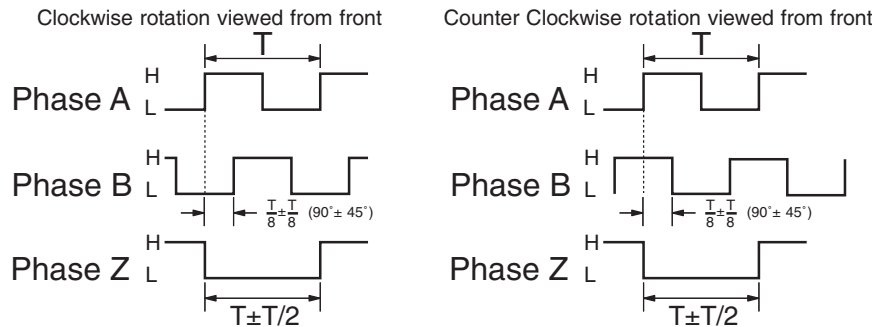
Voltage Output



Open Collector Output



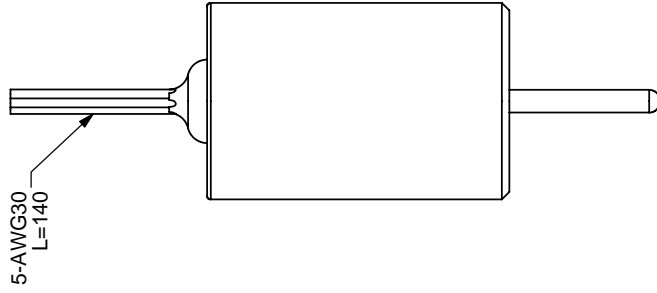
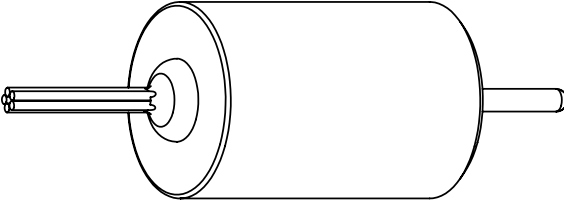
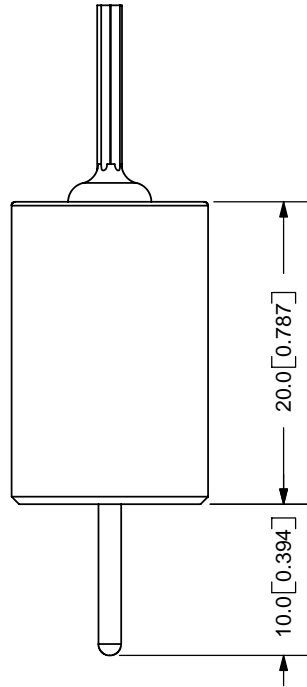
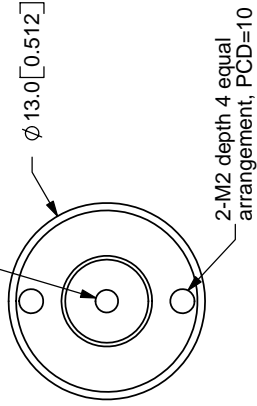
OUTPUT WAVEFORM



The position of Z phase against A, B phase is not specified

| | | |
|------|-------------|-----------|
| REV. | DESCRIPTION | DATE |
| A | NEW DRAWING | 7/27/2007 |

$\phi 1.5^{+0.005}_{-0.009}$ [0.059 +0.000 -0.000]



TOLERANCE:
#0.3mm UNLESS OTHERWISE
SPECIFIED



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TITLE: Incremental Encoder
REV: A

PART NO: MES9
UNITS: MM [INCHES]

DRAWN BY: JMS
APPROVED BY:
SCALE: 2:1

| | | | | | | | | |
|-------------|-------|---------|---------|---------|-------|---|---|---|
| Cable Color | Red | White | Green | Yellow | Black | - | - | - |
| Output Type | Power | A-Phase | B-Phase | Z-Phase | 0V | - | - | - |

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PC FILE NAME: MES9